

CLAIMS

1. A tissue bath system with at least one sample container and at least one sample holder for holding at least one tissue sample inside a tissue medium in the at least one container, the at least one sample holder being connected to at least one force transducer for measuring force exerted on the at least one holder by contraction of the at least one tissue sample upon stimulation, the system further comprising a temperature regulation system for regulating the temperature of the tissue medium in the at least one sample container, characterised in, that the system comprises a container station with at least one chamber for placement of at least one sample container in the at least one chamber, wherein the temperature regulation system has means for providing a temperature regulated air stream into the at least one chamber for regulation of the temperature in the container.
2. A tissue bath system according to claim 1 comprising a plurality of chambers, each chamber being configured for placement of one sample container in the chamber.
3. A tissue bath system according to claim 1 or 2, wherein the sample container has a sample reservoir and a fluid channel extending from the reservoir and traversing a wall of the container, wherein the container station comprises a plurality of placement sections configured for placement of a sample container in each placement section, wherein each placement section has a fluid transport unit configured for coupling to the fluid channel of the container for transport of fluid through the fluid channel when the container is placed in the placement section.
4. A tissue bath system according to claim 3, wherein the fluid channel is in the lower part of a side wall of the container or in the bottom of the container.

5. A tissue bath system according to claim 3 or 4, wherein the fluid transport unit comprise a solution supply tube for regulated supply of solution to the reservoir.
- 5 6. A tissue bath system according to anyone of the claims 3 to 5, wherein the fluid transport unit comprises a gas supply for regulated supply of gas to the reservoir.
- 10 7. A tissue bath according to claim 6, wherein the gas supply comprises a porous rod configured to extend into the reservoir of a connected container and configured for passage of the gas through the rod for thorough distribution of gas in the reservoir.
- 15 8. A tissue bath system according to any single of the claims 3 to 7, wherein the fluid transport unit comprises a liquid discharge tube for discharge of liquid from the reservoir.
- 20 9. A tissue bath container according to any preceding claim, wherein each of the at least one chamber has an air inlet that is configured to regulate the flow of air through the air inlet.
- 25 10. Tissue bath system according to any preceding claim, wherein the container has an overflow tube in a upper part of the reservoir and the container station has an overflow receiver configured to cooperate with such an overflow tube, the overflow receiver being connected with a liquid discharge system for discharge of liquid from the reservoir through the overflow tube.
- 30 11. Tissue bath system according to any single of the claims 3-10, wherein the container has a cylindrical fluid channel extending from the container, and wherein the fluid transport unit comprises a corresponding adapter for sealing engagement around the fluid channel.

12. Tissue bath system according any preceding claim, wherein the container station for each placement section has a sensor configured to determine whether a container has been placed in the placement section or not.
- 5 13. Tissue bath system according to claim 12, wherein the fluid transport unit and the air inlet and the sensor are functionally coupled to a control unit, the control unit being programmed for only allowing the transport of fluid by the fluid transport unit and only allowing the circulation of air into the at least one chamber if the sensor detects a container placed in the placement section.
- 10 14. Tissue bath system according to any preceding claim, wherein the container station has at least one receptacle for receiving a solution tank, where the solution tank via a tubing system and a solution flow control valve is connected to the fluid transport unit.
- 15 15. Tissue bath system according to any preceding claim, wherein the reservoirs of a plurality of containers have identical heights but wherein at least two of the containers have reservoirs with different widths in order to have different volumes.
- 20 16. Container for a tissue bath system according to any preceding claim, wherein the container has a fluid channel in the bottom.
- 25 17. Container according to claim 16, wherein the container has an overflow tube in a upper part of the reservoir for discharge of liquid from the reservoir through the overflow tube.
- 30 18. A set of containers of the type as described in claim 16 or 17, wherein the reservoirs of the containers have identical heights but different widths in order to achieve different volumes.

19. A force transducer for a tissue bath system according to any of the claims 1-15, wherein the transducer is mounted in a housing, the housing constructed with a mechanical bending stop limiting the bending of the transducer to less than the proper maximum amount of bending.